

Abbreviated Preliminary Assessment for Silver Monarch Mine (aka Keystone)

Idaho County



**State of Idaho
Department of Environmental Quality**

November 2015



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C. L. "Butch" Otter, Governor
John H. Tippetts, Director

November 6, 2015

Mr. Ken Marcy
U.S. Environmental Protection Agency Region 10
12928 SW 276th Street
Vashon, WA 98070

Subject: Abbreviated Preliminary Assessment for the Silver Monarch Mine, Idaho County, Idaho

Dear Mr. Marcy:

The Idaho Department of Environmental Quality (DEQ) completed the enclosed Abbreviated Preliminary Assessment (APA) for the Silver Monarch Mine under a cooperative agreement with Region 10 of the United States Environmental Protection Agency (EPA). Under this cooperative agreement, DEQ provides technical support for completion of preliminary assessments.

The Silver Monarch Mine is located on private property in Idaho County and is part of the Warren Mining District. This assessment was conducted with landowner permission. DEQ visited the site on September 3, 2015. No concerns with past mining activities were observed during the site visit; therefore, no samples were collected.

Based on DEQ's desktop research and site observations, a **No Remedial Action Planned (NRAP)** designation is recommended for the Silver Monarch Mine. The landowner will receive a copy of this APA. This APA can also be found on DEQ's preliminary assessment web page: <http://www.deq.idaho.gov/preliminary-assessments>.

If you have any questions, please feel free to give me a call at (208) 373-0296 or email dana.swift@deq.idaho.gov.

Sincerely,

A handwritten signature in cursive script that reads "Dana Swift".

Dana Swift
Mine Waste Project Coordinator

Enclosures

cc: Karen Snow
Marie Schlomer
Linda Weidenhamer

Acknowledgments

DEQ would like to thank Karen Snow, Marie Schlomer, and Linda Weidenhamer for permitting access to the mine site.

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Introduction

This abbreviated preliminary assessment (APA) for the Silver Monarch Mine in the Warren Mining District, Idaho County, Idaho provides the rationale for the No Remedial Action Planned (NRAP) determination that no additional assessments or site inspections are necessary at this time. Section 1 provides the APA checklist (modified from EPA, 1999) filled out by the assessor to determine that an APA was warranted. The following sections contain additional relevant information and evidence to support the APA, including historical and geologic information (Section 2); current site conditions and photographs (Section 3); maps (Section 4); and references (Section 5). During this assessment, the Idaho Department of Environmental Quality (DEQ) used references from historic reports which often have different spellings for claim names, town sites, and/or geographic features. DEQ has retained the spelling from the original source document.

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Site Inspectors: Dana Swift and Don Carpenter, DEQ State Office

Site Name: Silver Monarch Mine

Previous Name (aka): Keystone

Site Owners: Marie Schlomer
 PO Box 315
 Four Lake, WA 99014

Linda Weidenhamer
 94 Suzie Drive
 Newtown, CT 06470

Site Location: The Silver Monarch Mine is accessible by vehicle and then by foot. By vehicle, follow NF-340 south through Warren, approximately 1.25 miles from the south end of Warren, turn right on NF-359, stay right on NF-359 for approximately 3.75 miles. By foot, the mine is located approximately 0.5 mile west of NF-359.

Township 22 North, Range 06 East, Section 22

Latitude: 45.225628°N **Longitude:** -115.701118°W

Description of release (or potential release) and its probable nature:

The Silver Monarch Mine was investigated by the DEQ on September 3, 2015 for potential releases of heavy metals or other deleterious materials (such as petroleum products and ore

processing chemicals) by surface water, soil exposure, ground water or air pathways. Limited historical information is available for this site. The only historical reference document identified by the Idaho Geological Survey (IGS) was Reed 1937. IGS lists silver and gold as commodities for this mine; however, no production values were listed.

Section 1. APA Checklist

Task 1—Superfund Eligibility Evaluation

Assessor, if all answers are “no,” continue to task 2; otherwise, explain any “yes” answers below and then skip to task 3.	YES	NO
1. Is the site currently in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) or an “alias” of another site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Is the site being addressed by some other remediation program (i.e., federal, state, or tribal)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Are the hazardous substances that may be released from the site regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the Nuclear Regulatory Commission, Uranium Mill Tailings Radiation Control Act, or Occupational Safety and Health Administration)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Are the hazardous substances that may be released from the site excluded by policy considerations (i.e., deferred to Resource Conservation and Recovery Act corrective action)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Is there sufficient documentation to demonstrate that there is no potential for a release that constitutes risk to human or ecological receptors (e.g., comprehensive remedial investigation equivalent data showing no release above applicable or relevant and appropriate requirements (ARARs), completed removal action, documentation showing that no hazardous substance releases have occurred, or an EPA-approved risk assessment)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Assessor, please explain all “yes” answer(s):

Regarding question 5: A reconnaissance level preliminary assessment was conducted to determine if any potential sources or associated releases could be identified due to historical mining practices. No concerns were identified during desktop research. No concerns with past mining activities or evidence of other hazardous or deleterious materials were observed during the September 3, 2015 site inspection.

Task 2—Initial Site Evaluation

If information is not available to make a “yes” or “no” response below, further investigation may be needed. In these cases, the assessor should determine whether an APA is appropriate.

If the answer is “no” to any of questions 1, 2, or 3, proceed directly to task 3.	YES	NO
1. Does the site have a release or a potential to release?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Does the site have uncontained sources containing CERCLA-eligible substances?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Does the site have documented on-site, adjacent, or nearby targets?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If the answers to questions 1, 2, and 3 above were all “yes,” then answer questions 4–7 before proceeding to task 3.	YES	NO
4. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?	<input type="checkbox"/>	<input type="checkbox"/>
5. Is there an apparent release at the site with no documentation of exposed targets, but targets are on site or immediately adjacent to the site?	<input type="checkbox"/>	<input type="checkbox"/>
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but targets are nearby (e.g., within 1 mile)?	<input type="checkbox"/>	<input type="checkbox"/>
7. Are there uncontained sources containing CERCLA hazardous substances, a potential to release with targets present on site or in proximity to the site, but no indication of a hazardous substance release?	<input type="checkbox"/>	<input type="checkbox"/>

Notes:

At the time of the site inspection, the Silver Monarch Mine had no mining related water present and no identified releases or potentials for release. The closest residential dwellings are approximately three miles to the northeast of the site; occupancy and duration of occupancy within these residences is unknown. No on-site targets were identified. Although this site is located on private property, public access is unrestricted; however, no access roads or trails to the site could be located. Current land uses could include recreational activities by foot. Potential risks to human or ecological receptors associated with this mine site are minimal.

Table 1 parallels the questions above and should be used by the assessor to make decisions during task 3. Table 1 identifies different types of site information and provides some possible recommendations for further site assessment activities based on that information. The assessor should use Table 1 in determining the need for further action at the site, based on the answers to the questions in task 2. Assessors should use professional judgment when evaluating a site. An assessor’s individual judgment may be different from the general recommendations for a site given below.

Table 1. Site assessment decision guidelines for a site.

Suspected/Documented Site Conditions	EPA-Recommended Site Assessment Activities
1. There are no releases or potential to release.	APA
2. No uncontained sources with CERCLA-eligible substances are present on site.	APA
3. There are no on-site, adjacent, or nearby targets.	APA
4. There is documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site.	APA → SI or PA/SI
5. There is an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site.	APA → SI or PA/SI
6. There is an apparent release and no documented on-site targets and no documented targets immediately adjacent to the site, but there are nearby targets. Nearby targets are those targets that are located within 1 mile of the site and have a relatively high likelihood of exposure to a hazardous substance migration from the site.	Full PA
7. There is no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site.	Full PA

Task 3—DEQ Site Assessment Decision

When completing task 3, the assessor should use task 2 and Table 1 to select the appropriate decision. For example, if the answer to question 1 in task 2 was “no,” then an APA is appropriate and the “NRAP” box below should be checked. Additionally, if the answer to question 4 in task 2 is “yes,” then two options are available (as indicated in Table 1): (1) proceed with an APA and check the “Lower Priority SI” or “Higher Priority SI” box below or (2) proceed with a combined PA/SI.

Check the box that applies based on the conclusions of the APA checklist:

- No Remedial Action Planned (NRAP) Defer to NRC
 Higher Priority SI Refer to Removal Program
 Lower Priority SI Site is being addressed as part of another CERCLIS site
 Defer to RCRA Subtitle C Other: _____

DEQ Preparer:

Dana Swift
Dana Swift

11/6/15
Date

Please explain the rationale for your decision:

As a result of DEQ’s research and site observations, a NRAP designation is recommended for the Silver Monarch Mine. Desktop research and site inspection observations confirm that there

are no current releases of heavy metals or other deleterious materials by surface water, soil exposure, ground water or air pathways.

Section 2. Historical and Geologic Information

The following information is quoted directly from the U.S. Geological Survey Pamphlet No. 45 *Geology and Ore Deposits of the Warren Mining District Idaho County, Idaho* (Reed 1937). DEQ cannot improve or expand upon geologic information included in historic reports; therefore, information from these reports is included as direct quotations.

Silver Monarch vein.

The Silver Monarch vein, formerly the Keystone, lies west of Keystone Meadows, in the SE ½ of Sec. 22, T. 22 N., R. 6 E. The property covering the vein consists of three patented claims owned by Joseph Pischke, Roy C. Curtis, Joe Mulligan, and Mrs. Belle C. Curtis.

The old workings are not accessible now. There are several tunnels and a shaft, with a large dump, on the property. Old stopes, caved to the surface, testify to some production, the amount of which is not known.

The quartz monzonite in the neighborhood of the Keystone vein strikes about N. 20° W. and dips about 58° NE. The dumps on the property are conspicuous for the large proportion of altered quartz monzonite which they contain. Some of it is intensely silicified.

The vein was followed, largely by old stopes and prospect pits, for about 800 feet. The trend of the vein, as indicated by a stope near the shaft, is N. 82° W. and the dip is 50° S. The vein quartz on the dumps is white and only occasionally could any sulphides be seen in it. According to Lindgren¹, this vein is one foot thick and carries much silver as well as gold.

Section 3. Current Site Conditions and Photographs

Silver Monarch Mine site observations and photographs were collected during the DEQ site inspection on September 3, 2015. The weather was approximately 38°F with afternoon rain showers. Evidence of mining was observed during the visit including a waste rock pile (Photos 1-2), a collapsed former shaft and tunnel(s) at the top of the waste rock pile and to the west (Photos 3-4), and mining operations debris adjacent to the collapsed shaft and tunnel (Photo 5).

No erosion from the waste rock pile was observed and vegetation is present between the waste rock pile and an unnamed creek (Photos 6-7). No surface water pathway from the waste rock pile to the creek was present. The waste rock is believed to be solely¹ from underground workings as no evidence of milling operations took place on the site. The unnamed creek is located approximately 135 feet to the south of the waste rock pile and flows northeast toward Webfoot Creek. The Silver Monarch Mine site property also includes a former mining campsite or residential area where old cans and broken glassware remain (Photo 8). No roads or trails to the mine site have been maintained. Maps showing these features are included in Section 4.

¹ Lindgren, Waldemar, op.cit., p.249.



Photo 1. Silver Monarch Mine waste rock pile.



Photo 2. Toe of the waste rock pile.



Photo 3. Collapse of former tunnel and shaft at the top of the waste rock pile.



Photo 4. Possible collapsed tunnel up hill (west) of the waste rock pile.



Photo 5. Mining operations debris adjacent to collapsed tunnel and shaft.



Photo 6. Looking toward the waste rock pile from the unnamed creek.



Photo 7. Unnamed creek.



Photo 8. Remnants of a former mining campsite or residential area near the Silver Monarch Mine.

Section 4. Maps

The Silver Monarch Mine site is located approximately three miles southwest of Warren, Idaho (Figure 1). Specific site location details are included in the above checklist, described and shown in photos within Section 3, and shown on Figure 2. Desktop research identified Webfoot Creek as the closest surface water; however, during the site visit, the unnamed creek was observed and three coordinates along this creek were recorded to show the location of the creek on Figure 2. The generalized geology of this area is shown in Figure 3 with a description included in Section 2 of this report.

For the surface water pathway, the probable point of entry (PPE) is into unnamed drainages and creeks located within the Silver Monarch Mine site property boundary. The 15-mile target distance limit (TDL) follows Webfoot Creek to Warren Creek and ends on Warren Creek approximately three miles southwest of the confluence with the Salmon River (Figure 4). Wetlands are present downstream of the site within a 2-mile radius (Figure 4). At the time of the site visit, there were no active water sources draining from the mining area and no evidence of erosion from the waste rock piles; therefore, the potential for exposure from surface water pathways is minimal.

There are six domestic wells and no public water systems within the four mile radius of the Silver Monarch Mine (Figure 4). Given the lack of domestic wells and PWS in the immediate vicinity of the mine site, the potential for exposure from ground water pathways is minimal.

All of the mine waste remaining appears to be waste rock from underground workings since no history of milling operations is known for this site. The waste rock pile is surrounded by vegetation; therefore, fugitive dust is likely limited in this area. The nearest residences are approximately three miles to the northeast of the site, as based on the location of domestic wells. No schools or day care facilities are known to be located within four miles of the mine site. The potential for exposure from the soil and air pathways are minimal.

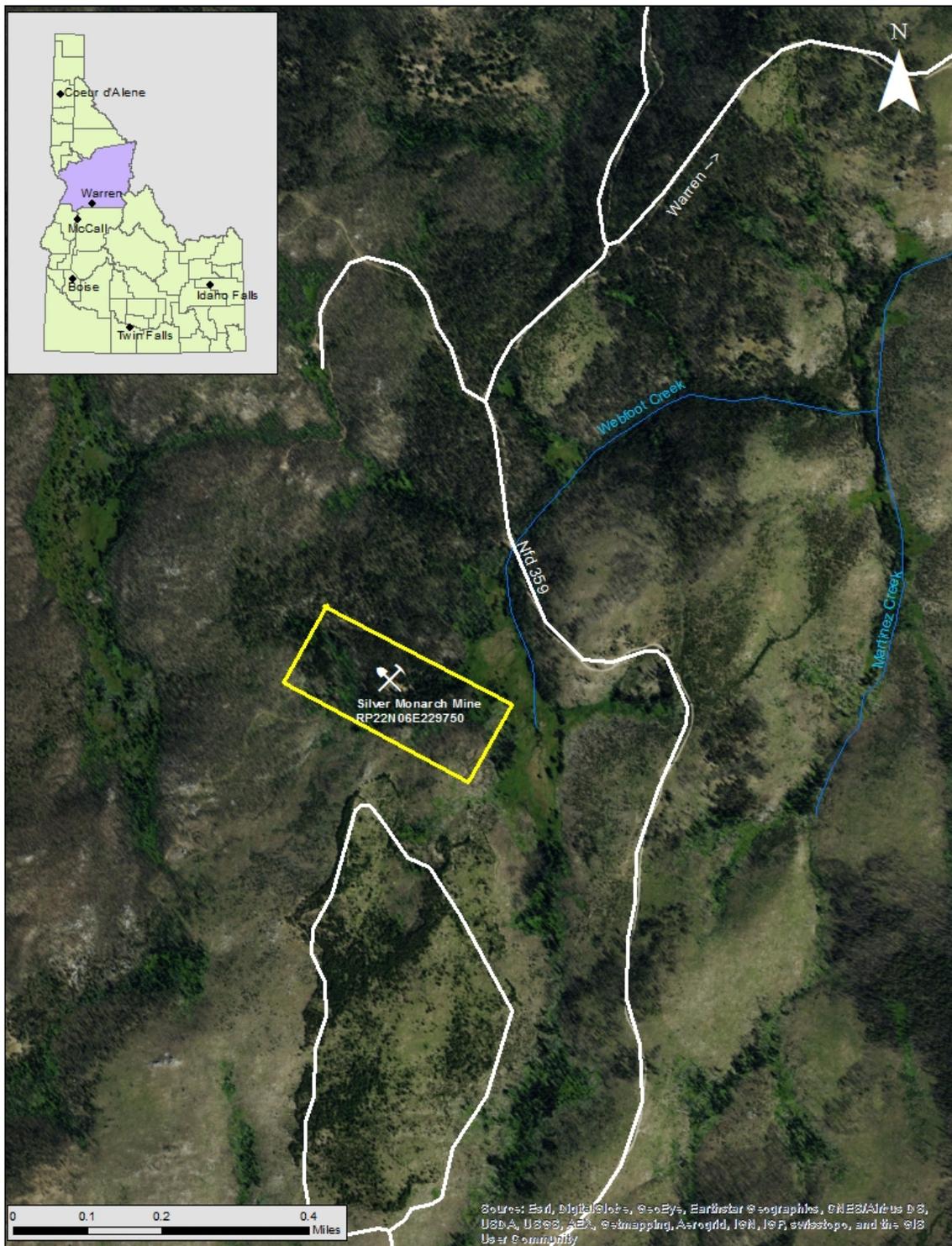


Figure 1. Aerial overview map of the Silver Monarch Mine site with parcel boundary outlined in yellow.

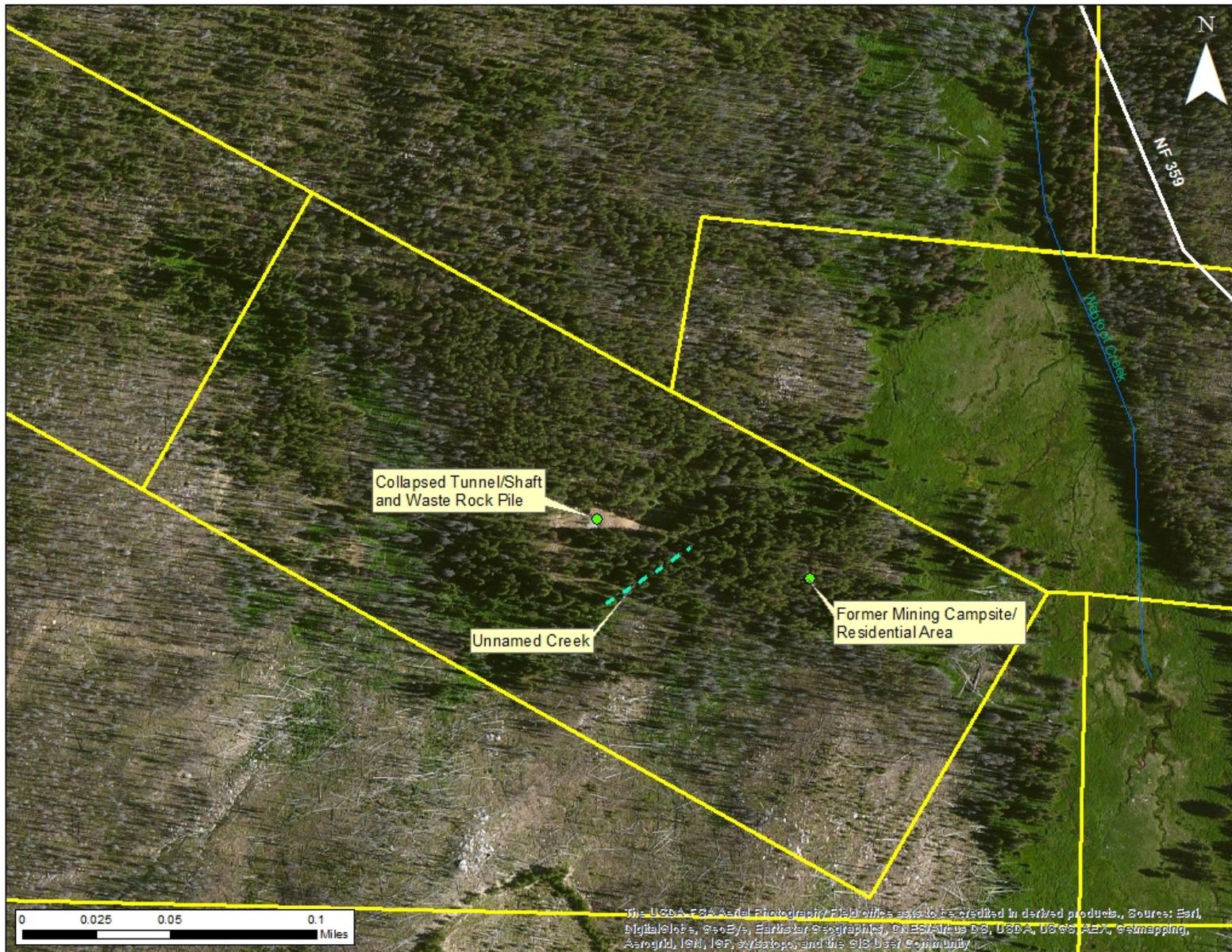


Figure 2. Features of the Silver Monarch Mine site and surrounding property.

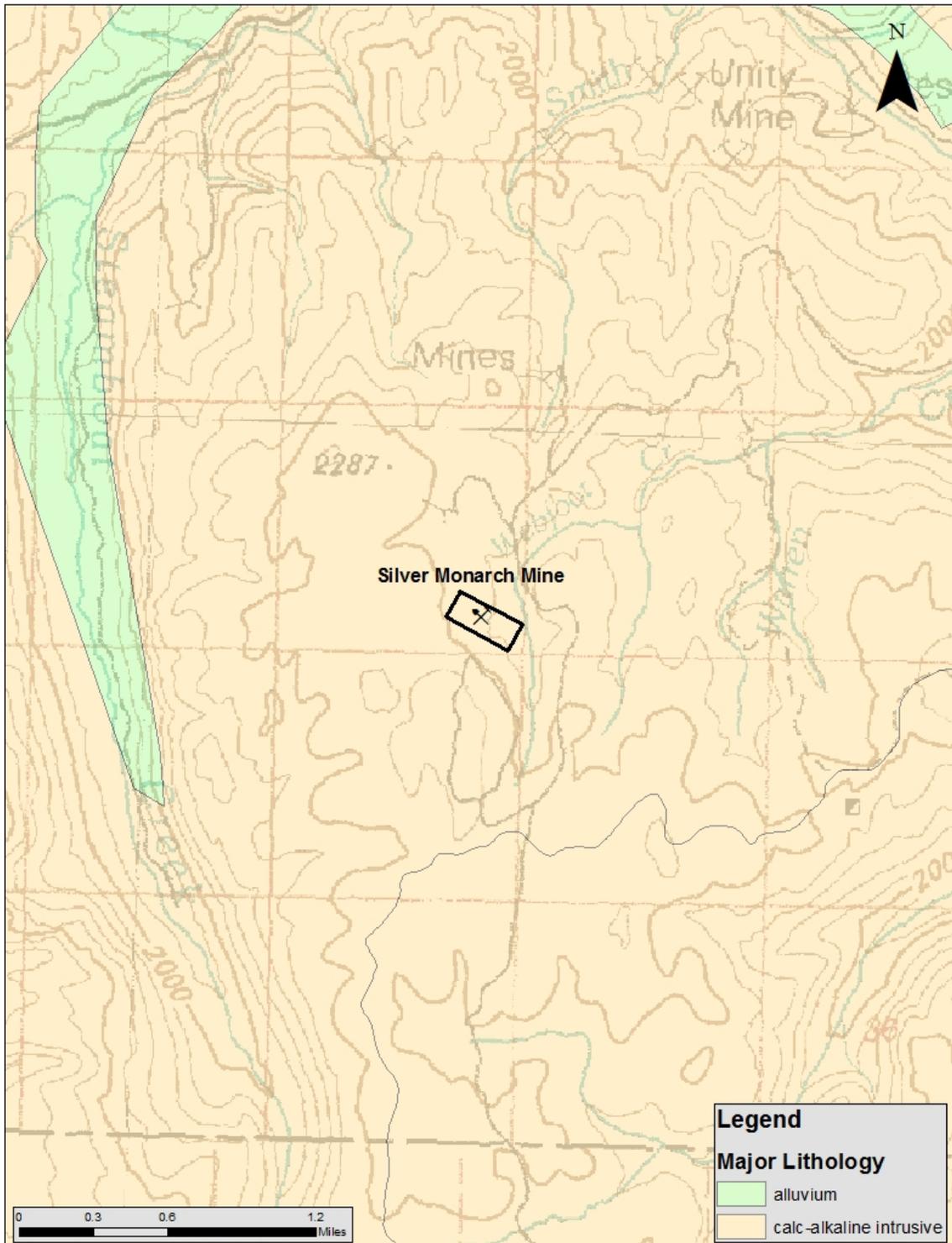


Figure 3. Map of major lithology in the vicinity of the Silver Monarch Mine.

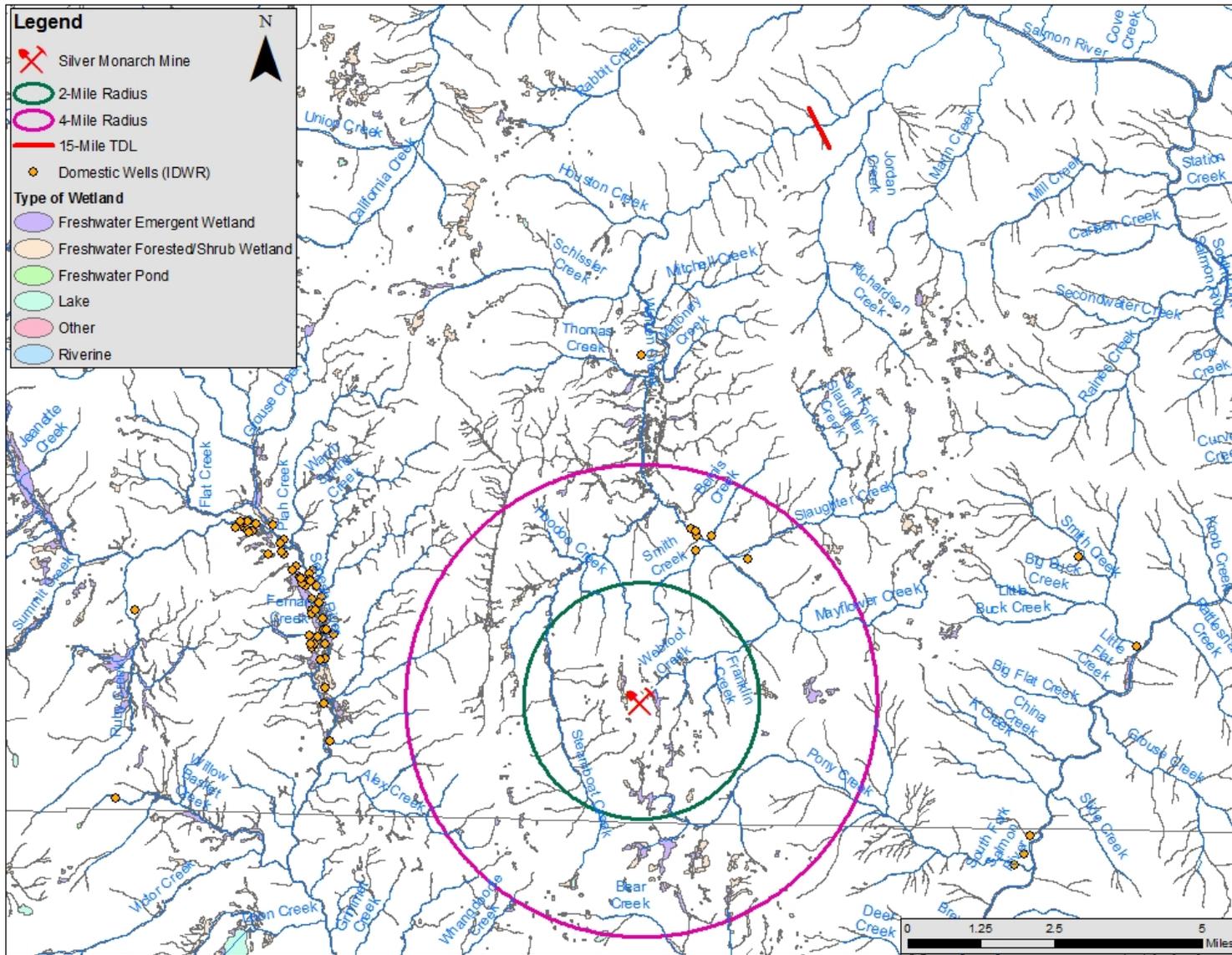


Figure 4. Map of features supporting evaluation of the surface water and ground water pathways in the vicinity of the Silver Monarch Mine.

Section 5. References

EPA (U.S. Environmental Protection Agency). 1999. *Improving Site Assessment: Abbreviated Preliminary Assessments*. Quick Reference Guidance Series. Office of Emergency and Remedial Response Site Assessment Team. EPA-540-F-98-037. OSWER 9375.2-09FS. PB98-963308.

IGS (Idaho Geological Survey). 2015. Mine Database. Available at:
<http://www.idahogeology.org/webmap/?show=mines>

Reed, J.C. 1937. *Geology and Ore Deposits of the Warren Mining District Idaho County, Idaho*. University of Idaho, Moscow, Idaho. Pamphlet No. 45.

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